

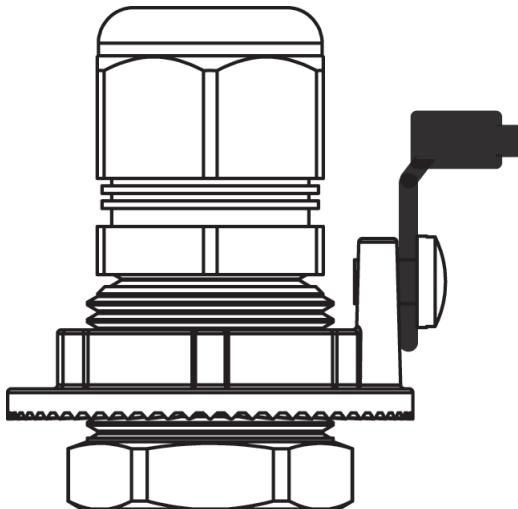


# **Light Direct Connect Kit**

## **For direct connection 120 VAC**

### **Underwater Luminaries**

**(for use with IntelliTouch®, EasyTouch®, and SunTouch® control systems)**



## **Installation Guide**

**IMPORTANT SAFETY INSTRUCTIONS**  
**READ AND FOLLOW ALL INSTRUCTIONS**  
**SAVE THESE INSTRUCTIONS**

## IMPORTANT SAFETY PRECAUTIONS



**Important Notice: Attention Installer:** This manual contains important information about the installation, operation and safe use of the Light Direct Connect product. This information should be given to the owner and/or operator of this equipment. When installing and using this electrical equipment, basic safety

precautions should always be followed, including the following:



**WARNING: IMPORTANT SAFETY INSTRUCTIONS PERTAINING  
TO A RISK OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS.**

### READ AND FOLLOW ALL INSTRUCTIONS.



Before installing this product, read and follow all warning notices and instructions which are included. Failure to follow safety warnings and instructions can result in severe injury, death, or property damage. Call (800) 831-7133 for additional free copies of these instructions.



**WARNING** - When using electrical products, basic precautions should always be followed, including the following: Before attempting installation of the Light Direct Connect, be sure that all power to the circuit supplying power to the system load center is disconnected and switched off at the circuit breaker. Before attempting any electrical wiring, be sure to read and follow Safety Instructions.

- The Light Direct Connect must be installed by a qualified service professional or be under the direct supervision of a qualified electrician.
- Wiring should only be performed by a qualified professional.
- All work must be performed by a licensed electrician, and must conform to the National Electric Code and all national, state, and local codes, as well as any local electrical codes in effect at the time of installation.
- Use of electrical appliances around swimming pools is hazardous. To reduce the risk as much as possible, carefully read and follow all instructions in this installation guide.

**Related manuals** - Download the IntelliTouch User's Guide (P/N 520102) at:

[http://www.pentairpool.com/owners\\_manuals/controls](http://www.pentairpool.com/owners_manuals/controls)

IntelliTouch\_Pool\_Spa\_Cntrls\_Instll\_Guide.pdf

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1620 Hawkins Ave., Sanford, NC 27330 • (919) 566-8000.

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Light Direct Connect Fitting Installation Guide

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## Light Direct Connect Kit

- Light Direct Connect kit 120 VAC - P/N 520967.  
(16 AWG three conductor power cord. Black cord for Pentair Water Pool and Spa light).

## Overview

The Light Direct Connect fitting is designed for use on the IntelliTouch® load center and power center, EasyTouch® load center and SunTouch® power center.

The Light Direct Connect seals the light power cord at end of the light conduit that runs to the bottom of the load center. The Light Direct Connect fitting is installed into a 3/4" knockout in the load center. The red brass NPT 1/2" or 3/4" PVC conduit is threaded into the fitting.

## Required Tools

- Medium size flat blade screwdriver.
- One inch pipe wrench.
- Torque wrench (in-lbs).  
Possible adapter, 1" Crowsfoot wrench with drive.



## Technical Support

**Sanford, North Carolina** (8 A.M. to 5 P.M. ET)

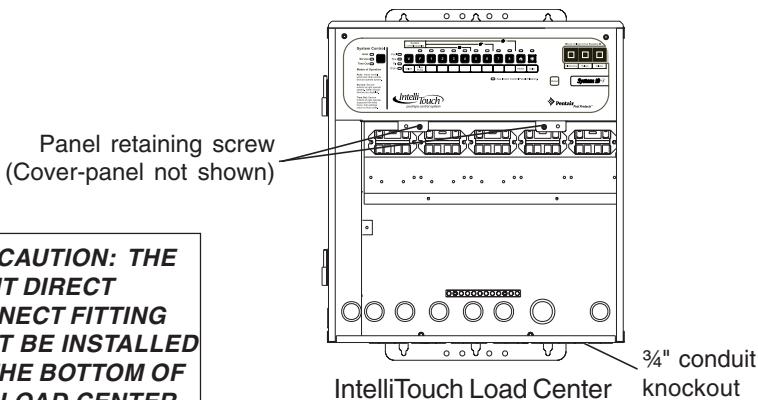
**Moorpark, California** (8 A.M. to 5 P.M. PT)

Phone: (800) 831-7133 - Fax: (800) 284-4151

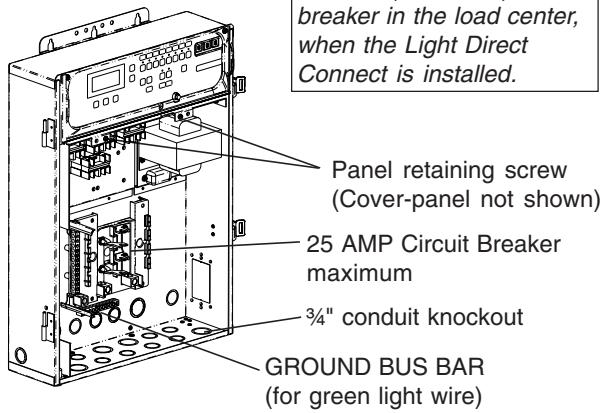
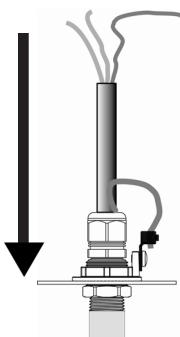
## Installation for IntelliTouch and EasyTouch Load Center

The following describes how to install the Light Direct Connect in the IntelliTouch load and power center and EasyTouch load center. *Note: For SunTouch power center installation, see page 5.*

1. Unlatch the two load center door spring latches, and open the front door.
2. Remove the two retaining screws securing the high voltage cover-panel. Remove the panel from the load center.
3. **Proceed to “Installing the Light Direct Connect Fitting Using Non-Metallic (PVC) Conduit” (page 6), or “Red Brass Conduit” for installation instructions” (page 9).**
4. After the Light Direct Connect installation has been completed, install the load center front panel and secure it with the two retaining screws.
5. Close the load center front door. Fasten the two spring latches. The Light Direct Connect installation is complete.



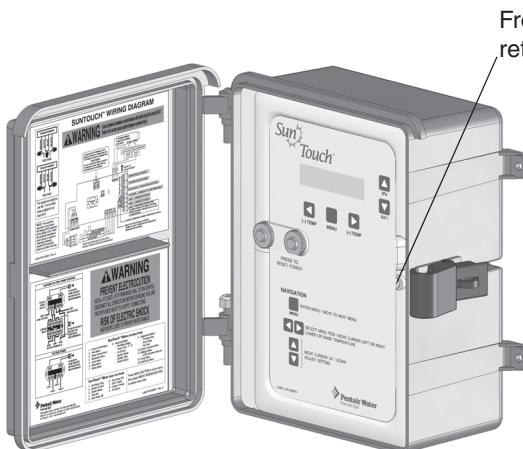
**▲ CAUTION: THE  
LIGHT DIRECT  
CONNECT FITTING  
MUST BE INSTALLED  
ON THE BOTTOM OF  
THE LOAD CENTER  
AND ORIENTATED  
DOWNWARDS ONLY.**



## EasyTouch Load Center

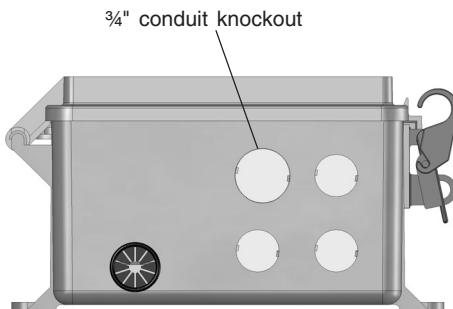
## Installing for SunTouch Power Center

1. To access the SunTouch Power Center electronics compartment, unlatch the front door and loosen the retaining screw on front panel. Open the hinged front panel to access the electronics compartment.
2. **Proceed to “Installing the Light Direct Connect Fitting Using Non-Metallic (PVC) Conduit” (page 6), or “Red Brass Conduit” for installation instructions” (page 9).**
3. After the Light Direct Connect installation has been completed, close the front panel and secure it with the retaining screw.



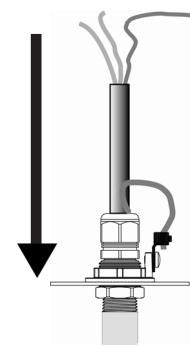
**Note:** Each light circuit must be connected to a 25 AMP (maximum) circuit breaker in the load center, when the Light Direct Connect is installed.

SunTouch Power Center



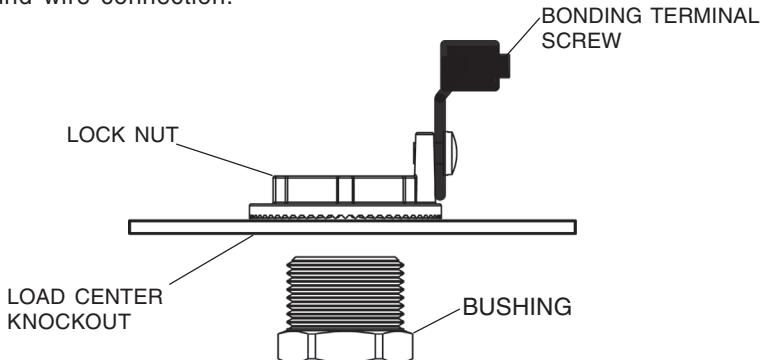
SunTouch Power Center (Bottom view)

**CAUTION: THE LIGHT DIRECT CONNECT FITTING MUST BE INSTALLED ON THE BOTTOM OF THE LOAD CENTER AND ORIENTATED DOWNWARDS ONLY.**

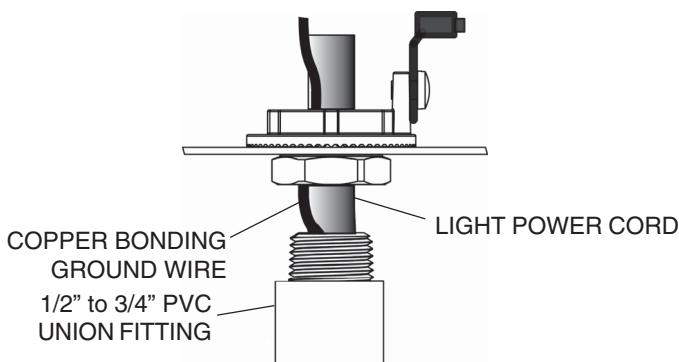


## Installing the Light Direct Connect Fitting Using Non-Metallic (PVC) Conduit

1. Remove one 3/4" knockout from the load center for the PVC conduit.
2. Position the LOCK NUT over the load center knockout opening to align the lock nut and knockout opening.
3. While holding the lock nut in place, insert the BUSHING through the knockout and into the lock nut thread. Hand tighten the bushing into the lock nut.
4. Using a 1" pipe wrench, tighten the bushing to secure in place. Be sure to position the ground terminal screw to one side for the ground wire connection.

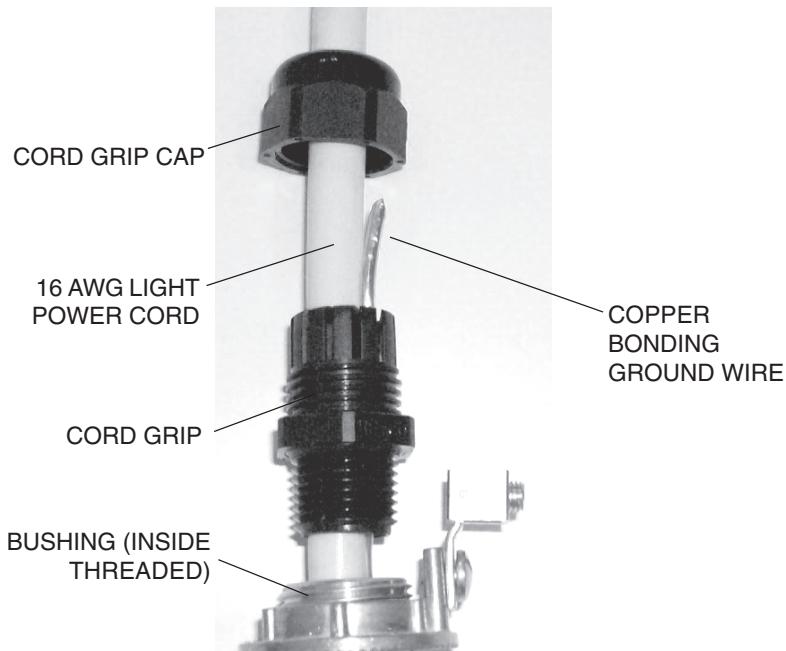


5. Route the LIGHT POWER CORD and the No. 8 AWG COPPER BONDING GROUND WIRE into the 1/2" to 3/4" PVC UNION FITTING (sold separately).
6. Pull the cord and ground wire into the PVC conduit union.

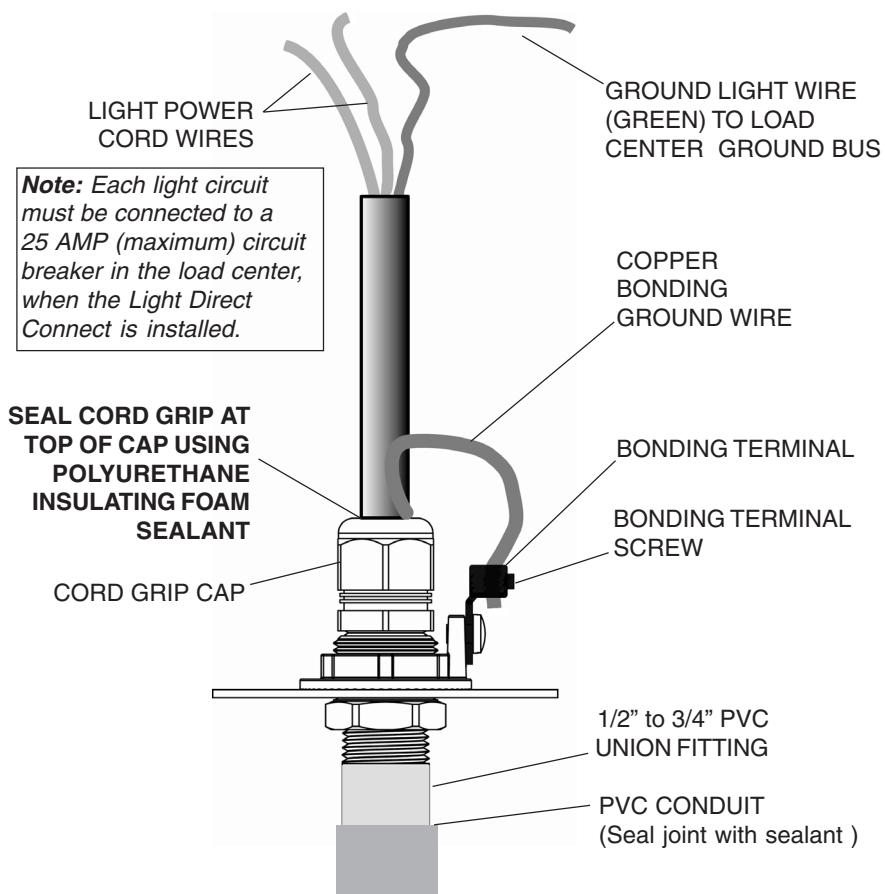


7. Route the light cord and copper bonding ground wire up through the bushing and lock nut into the load center. Leave enough cord and ground wire slack for connections to the load center relay, and ground terminal, respectively.

8. Insert the LIGHT CORD and the COPPER BONDING GROUND WIRE into the CORD GRIP.
9. Slide (or twist) the CORD GRIP down to the bushing. Leave a short length of copper bonding ground wire, enough to secure it to the ground terminal screw.
10. Screw the CORD GRIP into the BUSHING thread. Hand tighten the cord grip to secure the cord in place. If needed, adjust the cord grip nut to allow the cord grip more thread into the hub.
11. Insert the 16 AWG light cord and copper bonding ground wire into the CORD GRIP CAP. Slide the cap down to the top of the CORD GRIP.
12. Using a torque wrench, tighten the **cap** onto the **cord grip** to a torque value of **80 in-lbs (minimum)**.



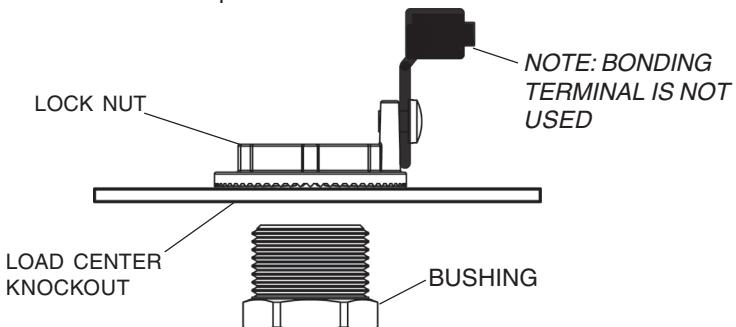
13. **Connecting the Copper Bonding Ground Wire:** Insert the COPPER BONDING GROUND WIRE into the BONDING TERMINAL. Using a torque wrench, tighten the bonding terminal screw to a torque value of **25 in-lbs (minimum)**.
14. Connect the light cord ground wire (green) to the LOAD CENTER GROUND bus.
15. Seal the cord grip using a polyurethane insulating foam sealant (such as Great Stuff®) at the cord grip cap, where the light cord exits, to restrict circulation of air flow through the conduit and cord grip. **Note: The approved "duct seal type/method" is determined/controlled by the local authority jurisdiction (NEC article 680.24).**



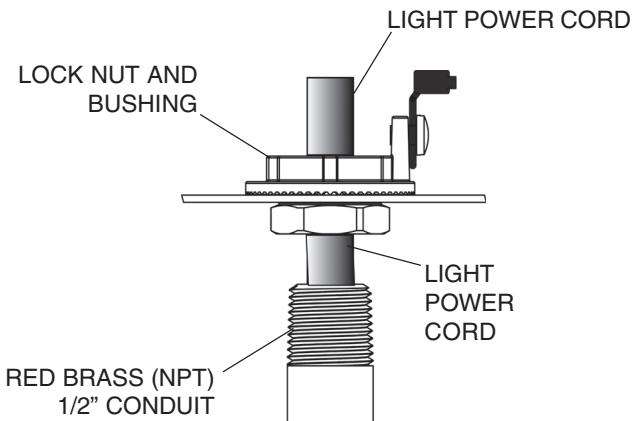
16. **Conduit Connection:** Insert and glue the PVC conduit into the **UL Listed** PVC union fitting. The PVC conduit connection must be sealed with the proper solvent cement.
17. The Light Direct Connect installation is complete.

## Installing the Light Direct Connect Fitting Using Red Brass Conduit

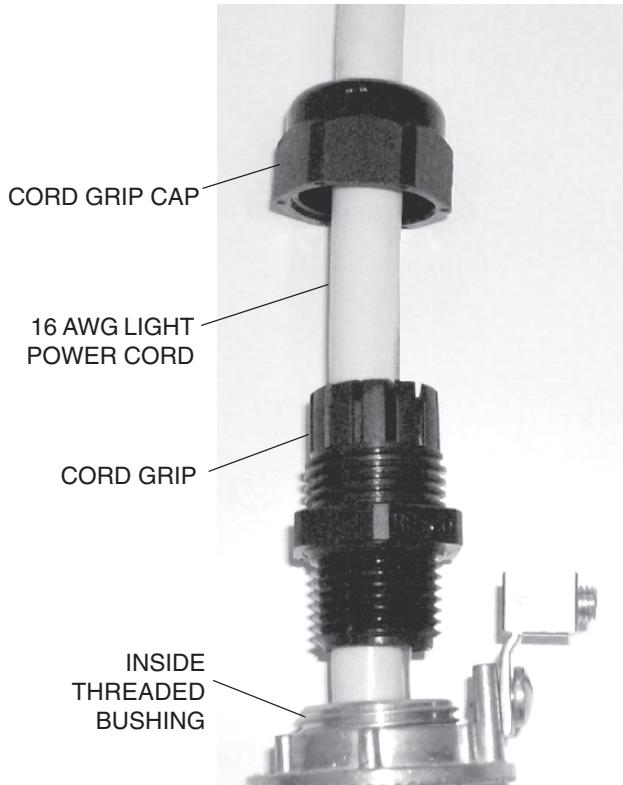
1. Remove one 3/4" knockout from the load center for the 1/2" for red brass conduit.
2. Position the LOCK NUT over the load center knockout opening to align the lock nut and knockout opening.
3. While holding the lock nut in place, insert the BUSHING through the knockout and into the lock nut thread. Hand tighten the bushing into the lock nut.
4. Using a 1" pipe wrench, tighten the bushing to secure in place. (If required, untighten the ground terminal screw and orient the terminal to a horizontal position.



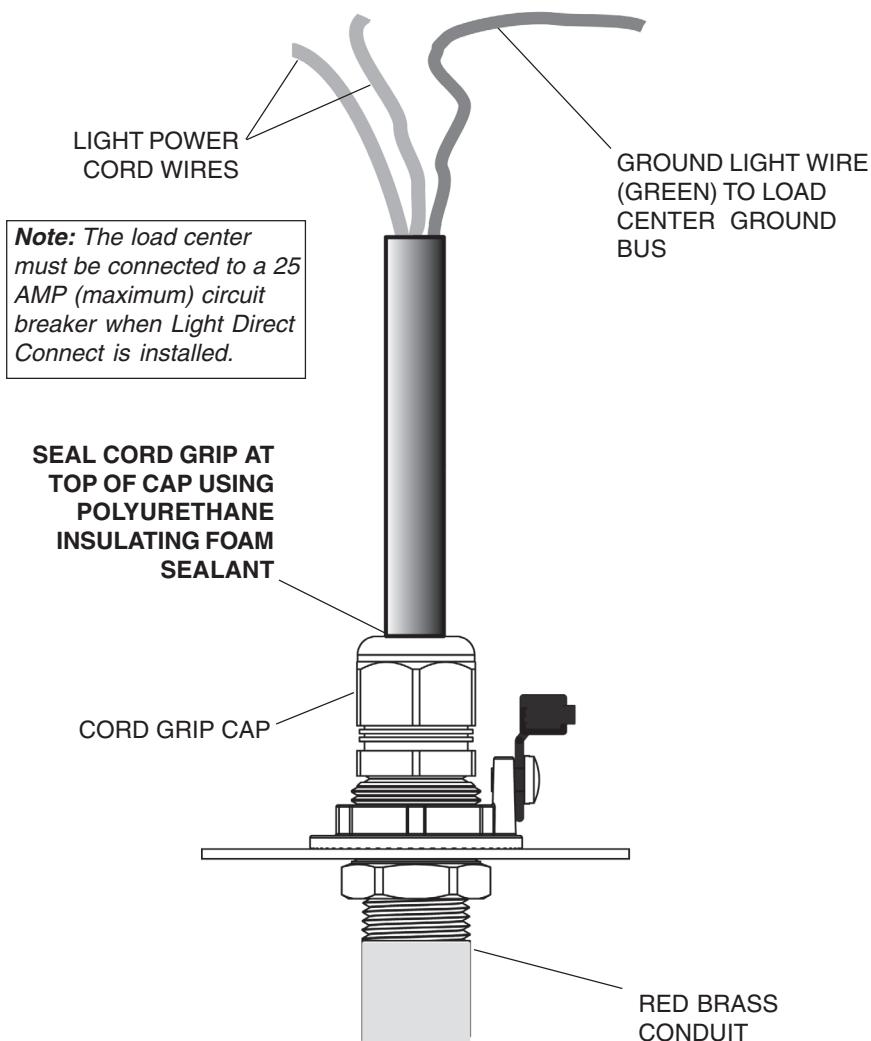
5. Pull the LIGHT POWER CORD up through the 1/2" Red Brass (NPT) conduit.
6. Route the light cord up through the bushing and lock nut into the load center. Leave enough cord and ground wire slack for connections to the load center relay. *Continue on next page.*



7. Insert the LIGHT CORD into the CORD GRIP.
8. Slide (or twist) the CORD GRIP down to the bushing.
9. Screw the CORD GRIP into the BUSHING thread. Hand tighten the cord grip to secure the cord in place. If needed, adjust the cord grip nut to allow the cord grip more thread into the hub.
10. Slide the CORD GRIP CAP down to the top of the CORD GRIP.
11. Using a torque wrench, tighten the **cap** onto the **cord grip** to a torque value of **80 in-lbs (minimum)**.



12. Connect the light cord ground wire (green) to the LOAD CENTER GROUND bus.
13. Seal the cord grip using a polyurethane insulating foam sealant (such as Great Stuff®) at the cord grip cap, where the light cord exits, to restrict circulation of air flow through the conduit and cord grip. **Note: The approved "duct seal type/method" is determined/controlled by the local authority jurisdiction (NEC article 680.24).**
14. **Conduit Connection:** Insert the brass conduit into the bushing thread. Use a pipe wrench to tighten the conduit in place.
15. The Light Direct Connect installation is complete.





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